Contents

1	Cha	llenge o	of Digital Transformation	1
	1.1	_	Insights into Digital Transformation]
	1.2		wo Levels of Digital Transformation	2
	1.3		Technologies as Drivers of Digital Innovation	
	1.4		hree-Layer Framework of Digital Transformation	5
	1.5	Struct	ure of this Book	10
	Refe	rences		10
2	Wel	come to	the Digital Business World	11
	2.1	Potent	tial of Digital Technologies: From Automated	
		Accou	nting to the Self-Driving Car	11
		2.1.1	Music Industry: The Napster Shock and its	
			Consequences	12
		2.1.2	Automotive Industry: From Process Optimization	
			in Production to New Mobility and New Vehicle	
			Architecture	14
		2.1.3	The Five Stages of Digital Transformation	16
	2.2	Impor	tant Terms and Concepts	17
		2.2.1	Digitalization and Digital Transformation	17
		2.2.2	Digital Transformation as a Specific Management	
			Concept	19
		2.2.3	Digital Innovations and Disruptive Innovations	20
		2.2.4	Industry 4.0, Social Media Marketing and Similar	
			Concepts	21

vii



	_
VIII	Contents

		2.2.5	8	2.1				
	2 2	Dinies	Transformation	21				
	2.3	_	lization: How Digital Innovations Arise Today Trends in Hardware	22 23				
			Trends in Software	24				
			Trends at the User Interface	26				
			Conclusion	26				
	2.4		Transformation: Where Digital Innovations are	20				
	۳.1		g Place Today	27				
		2.4.1	Current Changes in the Company Environment	27				
			Typical Changes on the Market Side	29				
		2.4.3						
		2.4.4	Conclusion					
			Add-on: Data Economy as a Cross-Cutting Issue					
	2.5		Digital Innovations Become Effective: Towards the	31 32 32 33 36 37 39				
	,		cance of New Systems	33				
	2.6	^	re Always Better? From the "Optimal" Degree of					
			,	36				
	Refe	e						
3	Cha	Changing Value Creation Structures through Digital						
	Tran	sforma	tion	39				
	3.1	,						
		3.1.1	On the Structure of Original Transformation					
			Projects: The Integration Paradigm of Digital					
			Transformation	40				
		3.1.2	Management of Transformation Projects	43				
			3.1.2.1 Team Composition	43				
			3.1.2.2 Project Management Style and Methods	43				
			3.1.2.3 Project Controlling and Evaluation	45				
			3.1.2.4 Embedding in the Core Organization and					
			Project Landscape	48				
	3.2	Digita	l Products and Services	49				
		3.2.1	Three Variants of Digital Products and Services	49				
		3.2.2	The Role of Ecosystems for Digital Products and					
			Services	52				
		3.2.3	Add-on: How much Privacy does the (German)					
			Customer want from Digital Products					
			and Services?	56				

			Contents	ix
		3.2.4	Procedure for the Development of Digital Products	
			and Services	58
			3.2.4.1 Basic Decision on the Procedure	58
			3.2.4.2 Design Thinking as a Special Form	
			of the Agile Approach	61
		3.2.5	Product-Oriented Design of an Organization	63
	3.3	Digital	Customer Interfaces	64
		3.3.1	Basic Understanding of the Customer Journey	65
		3.3.2	The Customer Journey Map	68
		3.3.3	The Change of the Customer Journey through	
			Digitalization	70
		3.3.4	Gatekeeper of the Digital Customer Interface	71
	3.4	Digital	Business Processes	72
		3.4.1	Delimitation of Processes	73
		3.4.2	Process Modeling	73
		3.4.3	Typical Starting Points for Process Improvement	76
		3.4.4	Process Mining as a New Analysis Approach	78
		3.4.5	Procedure for Business Process Optimization	79
		3.4.6	The Idea of a Process-Oriented Organization—and	
			its Reality	80
	3.5	Digital	Business Models	81
		3.5.1	Description of Business Models	83
		3.5.2	Typical Business Model Innovation in the Context	
			of Digital Transformation	87
		3.5.3	Procedure for Business Model Analysis	92
	Refe	rences		94
4	Crea	ting the	e Conditions for Digital Transformation	99
	4.1	Prepare	e IT Landscape: Make Expandability possible	99
		4.1.1	Why doesn't everything work immediately? The	
			Changeability of IT Landscapes	100
		4.1.2	Bimodal IT as a Solution Approach?	101
			4.1.2.1 Organizational Mapping of Bimodal IT	102
			4.1.2.2 Advantages and Disadvantages of the	
			Bimodal Approach	103
		4.1.3	Cloud Computing as a Solution Approach?	104
			4.1.3.1 Use of Cloud Solutions by Companies	106
			4.1.3.2 Disadvantages and Risks of Cloud	
			Solutions	107

X Contents

		4.1.3.3	Using Cloud Computing for Applications	
			with Private Customers	108
4.2	Creatii	ng Organi	zational Structures that Facilitate	
	Transfe	ormation:	Do's and Dont's for Established	
	Comp	anies		109
	4.2.1	The Dile	emma of the (Product) Innovator	110
	4.2.2	Setting t	ıp a Digitalization Unit	113
		4.2.2.1	Objectives and Types of Digitalization	
			Units	114
		4.2.2.2	Design of Digitalization Units	116
		4.2.2.3	Add-on: Ambidexterity as an Abstract	
			Ability of a Company	118
	4.2.3	Collabor	ration with Start-ups as an Opportunity for	
			on in Digital Transformation	118
		4.2.3.1	Characterization of Start-ups	119
		4.2.3.2	Accelerator and Incubator Programs	121
		4.2.3.3	Corporate Venturing	122
		4.2.3.4	Cooperation with a Start-up—Yes or No?	124
4.3	Transfo	orming C	orporate Culture: A Tough Challenge	126
	4.3.1	What is	Corporate Culture?	127
	4.3.2	Adequat	e Culture for Digital Transformation	129
		4.3.2.1	Resilient Organizations as Cultural Role	
			Models	130
		4.3.2.2	Market Orientation as a Value in the	
			Context of Digital Transformation	131
		4.3.2.3	Employee Orientation as a Value in the	
			Context of Digital Transformation	133
		4.3.2.4	Agility as a Value in the Context	
			of Digital Transformation	134
		4.3.2.5	Conclusion	135
	4.3.3	Selected	Tools for Managing Cultural Change	135
		4.3.3.1	Culture Analysis	136
		4.3.3.2	IT Systems as Tools for Cultural Change	138
		4.3.3.3	The Role of Leaders	139
	4.3.4	Specific	Procedure in a Cultural Change Project	140
		4.3.4.1	Analysis Phase	140
		4.3.4.2	Implementation Phase	141

			Contents	xi
	4.4	Buildi	ng Competence for Digital Transformation	145
		4.4.1	The Need for Digitalization and Transformation	
			Competence	146
			4.4.1.1 Need for Digitalization Competence	147
			4.4.1.2 Need for Transformation Competence	149
			4.4.1.3 Differentiation in Practice	149
		4.4.2	Two Ways of Meeting Needs	150
		4.4.3	Approaches for Building Transformation	
			Competence	151
		4.4.4	Add-on: Dynamic Skills for Digital	
			Transformation	156
	Refe	rences		158
5	Defi	ining Tr	ransformation Governance	161
_	5.1		nts of a Transformation Strategy	161
		5.1.1	Function and Delimitation of a Transformation	
			Strategy	162
		5.1.2	The Digital Transformation Strategy Framework	163
		,,,,,	5.1.2.1 Use of Technologies	164
			5.1.2.2 Change in the Value Creation Structure	165
			5.1.2.3 Change in Organizational Structure	165
			5.1.2.4 Financial Framework	166
		5.1.3	Guiding Questions in Formulating a	
		J. 2.10	Transformation Strategy	166
		5.1.4	The Strategies of Three Industries in Comparison	168
		J	5.1.4.1 Starting Situation in the Three Industries	168
			5.1.4.2 Use of Technologies	170
			5.1.4.3 Changes in the Value Creation Structure	171
			5.1.4.4 Change in Organizational Structure	172
			5.1.4.5 Financial Framework	172
		5.1.5		173
	5.2		Vay to the Transformation Strategy	174
	J	5.2.1	Two Basic Ways of Development	174
		J.2.1	5.2.1.1 Bottom-up Strategy Development at an	-, -
			Automobile Manufacturer	174
			5.2.1.2 Top-Down Strategy Development at a	-, -
			Financial Service Provider	176
			5.2.1.3 Conclusion	177
			y.2.1.5 Conclusion	1//

xii	Contents

			5.2.1.4	Add-on: Transformation Strategy as an	
				Emergent Phenomenon	178
		5.2.2	Further I	Peculiarities in the Formation of a	
			Transform	mation Strategy	179
			5.2.2.1	Interplay of Planning and	
				Implementation	179
			5.2.2.2	Dialogue-Oriented Approach	181
		5.2.3	Two Inst	ruments for Generating Ideas Bottom-up	181
			5.2.3.1	Idea Competitions	181
			5.2.3.2	Hackathons	184
	5.3	Manag	gement Ro	les in Digital Transformation	185
		5.3.1	Digital T	ransformation is a Top Priority	186
		5.3.2	The CDO	O as a Supporting Role	187
			5.3.2.1	Tasks of a CDO	187
			5.3.2.2	Delimitation of the CDO Role	189
		5.3.3	Conditio	ons for the Deployment of a CDO	191
		5.3.4	Successfu	ıl Cooperation Between CDO and CIO	193
	5.4	Matur	ity Models	s as a Tool?	196
		5.4.1	The Con	cept of Digital Maturity	196
		5.4.2	Two Typ	ical Maturity Models	197
		5.4.3	Design P	arameters for Maturity Models	199
		5.4.4	Limitatio	ons of Maturity Models	201
	Refe	rences			202
6	The	Compl	ete Appro	ach at a Glance	205
	6.1	The M	lost Impor	tant Concepts and Instruments	
		at a Glance			
		6.1.1	Change \	Value Creation Structures through	
			Digital T	ransformation	205
		6.1.2	Creating	Conditions for Digital Transformation	206
		6.1.3	Develop	Transformation Governance	208
	6.2	The Right Entry			208
	6.3	Beyon	d the Digi	tal Transformation: What Comes Next?	211